



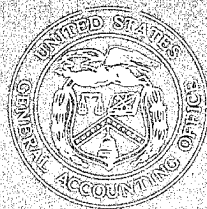
United States General Accounting Office

Report to the Chairman, Subcommittee  
on Military Readiness, Committee on  
National Security, House of  
Representatives

December 1995

# ARMY INVENTORY

## Budget Requests for Spare and Repair Parts Are Not Reliable



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United States  
General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

B-258887

December 29, 1995

The Honorable Herbert H. Bateman  
Chairman, Subcommittee on Military Readiness  
Committee on National Security  
House of Representatives

Dear Mr. Chairman:

We reviewed the accuracy of spare and repair parts data used in determining Army inventory requirements and Defense Business Operating Fund<sup>1</sup> budget requests. Our objectives were to evaluate (1) the accuracy of the databases used to determine item requirements and inventory levels for budget request purposes and (2) the actions taken to correct data problems that could affect the reliability of the budget estimates. Our scope and methodology are shown in appendix I.

## Background

The five major Army inventory control points<sup>2</sup> manage secondary items and repair parts valued at \$17 billion. These items are used to support Army track and wheeled vehicles, aircraft, missiles, and communication and electronic systems.

The process for identifying the items and the quantity to stock begins with developing the budget request—the key to effective inventory management. If too few or the wrong items are available to support the forces, then readiness suffers and the forces may not be able to perform their assigned military missions. On the other hand, if too many items are acquired, then limited resources are wasted and unnecessary costs are incurred to manage and maintain the items.

The Army uses different processes for determining its spare and repair parts budget requests and for determining which parts to buy or repair. The process for determining spare and repair parts budget requests is based on data from the budget stratification reports, which show the dollar value of requirements and inventory available to meet the requirements. When an item's available inventory is not sufficient to meet

<sup>1</sup>Spare and repair parts at the wholesale inventory level are procured through the Defense Business Operating Fund, a revolving account. Each year, the Department of Defense submits a budget request showing what it plans to procure.

<sup>2</sup>The five inventory control points are the Armament and Chemical Acquisition and Logistics Activity (ACALA), Aviation and Troop Support Command (ATCOM), Communications-Electronics Command (CECOM), Missile Command (MICOM), and Tank-Automotive and Armaments Command (TACOM).

the requirements, it is considered to be in a deficit position. The aggregate value of items in a deficit position then becomes the Army's basis for determining its spare and repair parts needs. As these needs are formulated into a budget request, the end result (budget request) is normally less than the aggregate value of items in a deficit position. This makes it even more important that the true needs be based on accurate data. Otherwise, funds may be allocated to procuring spare and repair parts that should be spent on other priority needs. Using accurate data in the requirements determination process avoids such misallocation of funds. We have previously issued reports pointing out data inaccuracy problems in the Army's requirements determination process and the effect of these inaccuracies on inventory decisions. See appendix IV.

The process for determining which items to buy or repair is based on information in the item's supply control study, which is automatically prepared when an item reaches a point when insufficient assets are available or due in to meet requirements. When a study is prepared, the item manager validates the requirements and asset information in the study. Based on the results of the validated data, the item manager will decide whether to buy, repair, or not buy the quantity recommended by the study.

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## Results in Brief

The Army's September 30, 1994, budget stratification report, the latest information available at the time of our review, contained numerous instances where an item's deficit inventory position was based on inaccurate requirements or inventory data. Our review of 258 items<sup>3</sup> with a reported deficit inventory value of \$519 million, or 69 percent of the total deficit value, showed that the deficit position for \$211 million of the items was not reported correctly. If accurate information had been used, the inventory deficit would have been \$23 million rather than the \$211 million reported.

Although the Army is aware of many of the processing, policy, data, and system problems, it has not made changes to correct them because the Department of Defense is developing a standard requirements determination system for all the services as part of its Corporate Information Management initiative. For that reason, Defense has limited how much the services can spend to change their existing systems. Army officials said that they had submitted requests to correct many of the data problems to the Department of Defense. In their opinion, the cost to

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<sup>3</sup>The universe of items we reviewed consisted of items with a deficit value of \$500,000 or more.

implement these changes would be minimal compared to the potential benefits. Nevertheless, the requests have not been funded for implementation because Defense is reluctant to spend resources on a system that will be replaced by a standard system.

Army officials said that the standard system will not be implemented for at least 4 years and that much of the existing data will be integrated into the standard system. In the interim, the Army lacks assurance that its budget requests represent its actual funding needs for spare and repair parts. Furthermore, unless the systemic data problems are corrected now, the inaccurate data will be integrated into the new system when it is finally implemented.

## Inaccurate Data Caused Items to Be Erroneously Reported in a Deficit Position

As of September 30, 1994, we reviewed 258 items from a universe of 8,526 items with a deficit inventory position. The selected items represented 3 percent of the items in a deficit position but accounted for \$519 million, or 69 percent, of the \$750 million deficit inventory value. We found that 94 of the 258 items, with a reported deficit inventory value of \$211 million, had data errors that affected the items' requirements or inventory available to satisfy the requirements.

Table 1 shows the results of our review for the Army's inventory control points.

**Table 1: Items Selected for Review That Were Reported in a Deficit Position as of September 30, 1994**

Dollars in millions

Inventory control point	Items in deficit position						
	Total universe		Items selected		Items erroneously reported in a deficit position		
	Number	Value	Number	Value	Number	Value	Percent
ACALA	2,099	\$174	62	\$120	27	\$37	44
ATCOM	1,608	326	105	265	46	149	44
CECOM	2,059	125	45	73	8	7	18
MICOM	1,691	96	39	47	11	11	28
TACOM	1,069	29	7	14	2	7	29
<b>Total</b>	<b>8,526</b>	<b>\$750</b>	<b>258</b>	<b>\$519</b>	<b>94</b>	<b>\$211</b>	<b>36</b>

Overstated requirements and understated inventory levels were the major reasons items were erroneously reported in a deficit position. In addition, some items were incorrectly included in the process for determining

funding requirements. If the items' inventory position had been correctly reported, the true deficit value for the 94 items would have been about \$23 million rather than \$211 million.

Table 2 shows the major reasons why items were incorrectly classified as deficit.

**Table 2: Reasons Why Items Were Erroneously Classified as Deficit Items (as of September 30, 1994)**

Dollars in millions			
Reason	Number of items	Deficit inventory value reported	Deficit position based on accurate data
Overstated requirements	53	\$121.6	\$15.5
Understated inventory level	26	59.9	4.2
Item should not have been included in stratification process	9	9.7	0.1
All others	6	19.6	3.0
<b>Total</b>	<b>94</b>	<b>\$210.8</b>	<b>\$22.8</b>

## Overstated Requirements

When insufficient inventory is on hand and due in to meet an item's requirements, the budget stratification process will report the item as being deficit. If the item's deficit position is caused by overstated requirements, this means that resources could be wasted buying unneeded items.

As shown in table 2, overstated requirements caused 53 items to be erroneously reported as being in a deficit position. The overstated requirements resulted from inaccurate demand data, inaccurate leadtime data, and lower-than-expected requirements. Table 3 shows the number of instances where these reasons caused the items' requirements to be overstated.

**Table 3: Reasons for Overstated Requirements**

Dollars in millions		
Reason	Number of items	Reported deficit position
Inaccurate demand data	28	\$61.1
Requirements did not materialize	19	44.1
Inaccurate leadtime and safety level data	6	16.4
<b>Total</b>	<b>53</b>	<b>\$121.6</b>

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The following examples illustrate the types of inaccurate data that caused overstated requirements:

- The item manager for an aircraft floor item used on the CH-47 Chinook helicopter said that the database still included demands from Operations Desert Shield and Desert Storm. Including these demands in the requirements determination caused the budget stratification process to erroneously classify the item as having a deficit inventory position of about \$500,000. If the outdated demands had been purged from the system, the item would not have been in a deficit position.
- According to the item manager for the front lens assembly item used on the AN/PVS-7B Night Vision Goggles, the item requirements shown in the budget stratification report did not materialize. She said that the report showed the item as having a deficit inventory position of \$2.4 million. However, when it came time to procure the item, the project leader reduced the planned procurement quantity because the field units indicated they did not like the item. The item's actual deficit position should have been only \$18,000.
- According to the item manager, an angle drive unit used on the M2/M3, M2A1/M3A1 Bradley Fighting Vehicle system had an inflated safety level requirement in the budget stratification report. The report showed a safety level of 6,887 units instead of the correct safety level of 355. As a result, a deficit inventory position of \$6.6 million was reported.

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### Understated Inventory Levels

When a prime stock number has authorized substitute items, the requirements and inventory for the prime and substitute items are supposed to be added and shown as one requirement and one inventory level under the prime number. This did not happen. The requirements for both types of items were shown as one requirement but the inventory was not. As a result, the inventory to meet the overall requirement was understated, and the item was placed in a deficit position. For example, according to the item manager for a night window assembly used on the TOW subsystem for the M2/M3 Bradley Fighting Vehicle, the budget stratification report showed a deficit supply position of \$800,000 for the item. This occurred because inventory belonging to a substitute item was not counted toward the prime item's requirements. The item manager said the true deficit for the assembly was \$65,000.

There were also requirements problems for items being repaired at maintenance facilities. The requirements system did not accurately track stock in transit between overhaul facilities and the depots. According to

item managers at several inventory control points, they had problems either tracking the physical movement of inventory between the depots and repair facilities, or ensuring that all records were processed so the database accurately accounted all applicable assets. These problems could cause items to be erroneously reported as being in a deficit position.

Table 4 shows how often these reasons resulted in understated inventory levels.

**Table 4: Reasons for Understated Inventory Levels**

Dollars in millions

Reason	Number of items	Value of deficit position
Overhaul items not considered	21	\$39.3
Substitute items not accurately tracked	5	20.6
<b>Total</b>	<b>26</b>	<b>\$59.9</b>

### Items Incorrectly Included in the Budget Stratification Process

Our review of selected items identified nine items that should have been excluded from the budget stratification process. By including these items, the budget stratification process identified funding needs for the items when, in fact, the funds to procure the items were being provided by another service, a foreign country under a foreign military sales agreement, or another appropriation.

Table 5 shows the number of items that were incorrectly included in the budget stratification process.

**Table 5: Items That Should Have Been Excluded**

Dollars in millions

Reason	Number of items	Value
Foreign military sales items	4	\$5.7
Item purchased with procurement appropriation funds	2	2.1
Item miscoded as Army item	1	0.7
Item miscoded as project manager item	1	0.7
End item miscoded as secondary item	1	0.5
<b>Total</b>	<b>9</b>	<b>\$9.7</b>

The following examples illustrate the effect of including "excluded" items in the budget stratification process:

- According to the item manager for a fire control electronic unit used on the M1A2 main battle tank, the Army issued a contract in August 1993 to procure items to meet the Army's requirements as well as foreign military sales. Because the Army is reimbursed for foreign military sale items, these items should have been excluded from the budget stratification process. However, the items were included in the stratification process and were reported as having a deficit inventory position of \$2.3 million.
- The inventory control point procured a gas-particulate filter unit used in producing modular collective protective equipment. According to the item manager, procurement appropriation funds, provided by the program manager's office, were used to buy the items. Because the stratification process is only supposed to deal with items procured by the Defense Business Operating Fund, the item should not have been included in the stratification process and a deficit inventory position of about \$800,000 should not have been reported.
- According to the item manager, the Air Force manages and makes all procurements for a panel clock item. The Army's budget stratification report showed this item had a deficit inventory position of \$700,000. However, because the Air Force managed this item, the panel clock should not have been coded as an Army secondary item for inclusion in the budget stratification report.
- The item manager for an electronic component item said that the item should have been coded as an inventory control point asset rather than a project manager's office asset. Because project manager items are not available for general issue, these items were not counted against the item's requirements in the budget stratification report. If these items had been properly coded, the item would not have been reported as having a \$700,000-deficit inventory position.
- According to the item manager, an electronic component item should have been coded as a major end item rather than a secondary item and not included in the budget stratification process. The item was reported as having a deficit inventory position of \$500,000.

## Army Is Aware of the Data Problems, but Is Waiting to Make Corrections

The Army is aware of many of the processing, policy, and data problems affecting the accuracy of the requirements data. Furthermore, the Army has identified 32 change requests to correct problems with the requirements determination and supply management system.



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## System Change Requests

According to Army officials, the cost to implement the 32 change requests would be about \$660,000, and in their opinion, the benefits would greatly outweigh the added costs. The officials said these changes would correct many of the problems, including some of the ones we identified during our review. Nevertheless, not all of the requests have been approved for funding because the Department of Defense is developing a standard requirements system as part of its Corporate Information Management initiative and does not want to spend resources to upgrade existing systems. As a result, it has limited the changes that the services can make to their existing systems.

Army officials said that the standard system is not expected to be implemented for at least 4 years. Furthermore, major parts of the existing system will probably be integrated into the standard system. Therefore, unless the data problems are corrected, they will be integrated into the standard system and the Army will still not have reliable data.

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## Processing Problems

Army officials also cited examples where processing change requests are needed to correct other data problems in the requirements determination system. For example, the depots do not always confirm material release orders/disposal release orders received from the inventory control points. As a result, the inventory control points do not know if the depots actually received the orders. They identified numerous instances where the depots put the release orders in suspense because of higher priority workloads. This resulted in the release orders not being processed in a timely manner, processed out of sequence, or lost and not processed at all.

Because the inventory control points could not adequately track the release orders, they could have reissued the release orders. The reissuance could have caused duplicate issues or disposals, imbalances in the records between the inventory control points and the depots, and poor supply response to the requesting Army units.

A system change request was initiated in November 1994 to address this problem, but the request has not yet received funding approval. Although Army officials could not provide a cost estimate to implement the change request, it could save about \$1 million in reduced workload for the inventory control points and depots.

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## Policy Problems

According to Army officials, one programming application in the requirements determination system uses reverse logic to calculate the supply positions of serviceable and unserviceable assets. It compares the supply position of all serviceable assets to the funded approved acquisition objective (current operating and war reserve requirements). However, for the same item, the program compares the supply position of all unserviceable assets to the total of the current operating and war reserve requirements, the economic retention quantity, and contingency quantity. The effect of this is that serviceable inventory can be sent to disposal while unserviceable inventory is being returned to the depots.

According to Aviation and Troop Command records, the Command disposed of \$43.5 million of serviceable assets at the same time that \$8.5 million of unserviceable assets, of the same kind, were returned to the depots between March and September 1994. By September 1995, the Command had disposed of \$62 million of serviceable assets. Command officials said that a system change request was initiated in November 1994 to correct the programming logic problem. However, the request did not receive funding approval because it violated Department of Army policy, even though the estimated cost to implement the change request would be less than \$20,000.

Although this change will not reduce the reported deficit quantities, it will allow the commands to keep more serviceable items in lieu of unserviceables, and it will reduce overhaul costs. Furthermore, according to Command records, this policy is causing the disposal of high-dollar, force modernization items that could result in re-procurement and adversely affect stock availability to field units.

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## Recommendations

We recommend that the Secretary of Defense direct the Secretary of the Army to proceed with the pending system change requests to correct the data problems. Doing so could correct many of the problems identified in our report. Furthermore, the corrective actions would improve the overall reliability and usability of information for determining spare and repair parts requirements.

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## Agency Comments

The Department of Defense agreed with the report findings and partially agreed with the recommendation. It said that instead of the Secretary of Defense directing the Army to proceed with the system change request, the Army will be requested to present a request for funding for the system

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changes to the Corporate Configuration Control Board at the Joint Logistics Systems Center. The Board, as part of the Corporate Information Management initiative, was established to consider and resolve funding matters related to changes to existing systems.

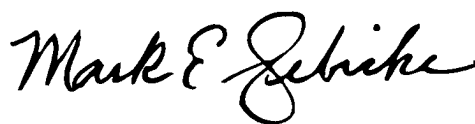
In our opinion, the action proposed by the Department of Defense achieves the intent of our recommendation, which was for the Army to seek funds to correct the data problems in its requirements determination system. Defense's comments are presented in their entirety in appendix II.

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We are sending copies of this report to the Secretary of the Army; the Director, Office of Management and Budget; and the Chairmen, House Committee on Government Reform and Oversight, Senate Committee on Governmental Affairs, the House and Senate Committees on Appropriations, House Committee on National Security, and Senate Committee on Armed Services.

Please contact me on (202) 512-5140 if you have any questions concerning this report. Major contributors to this report are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink, reading "Mark E. Gebicke". The signature is written in a cursive style with a large, stylized "M" and "G".

Mark E. Gebicke  
Director, Military Operations  
and Capabilities Issues



# Scope and Methodology

We held discussions with responsible officials and reviewed Army regulations to determine the process used by the Army to identify its spare and repair parts needs for its budget development process. We focused on the process used to identify items in a deficit position.<sup>1</sup> As part of these discussions, we also studied the budget stratification process, which is the major database input used in the budget development process.

To identify the items in a deficit position, we obtained the September 30, 1994, budget stratification data tapes for the five Army inventory control points: Army Munitions and Chemical Command, Aviation and Troop Command, Communications-Electronics Command, Missile Command, and Tank-Automotive Command. From the total universe of 8,526 secondary items with a deficit inventory position valued at \$750 million, we selected all items that had a deficit position of \$500,000 or more. This resulted in a sample of 258 items with a total inventory deficit position of \$519 million, or 69 percent of the total deficit. For each of the 258 selected items, we obtained information from the responsible item manager to determine whether the item was actually in a deficit position as of September 30, 1994. For those items that the budget stratification process had erroneously placed in a deficit position, we determined the reason for its misclassification. We obtained this information by reviewing item manager files and discussing the items with responsible item management personnel.

We categorized the reasons for the erroneous classifications to determine frequency distribution for each type of reason. We then determined through discussions with item management officials and review of system change requests what actions were taken or planned to correct the identified problems.

We performed our review from October 1994 to July 1995 in accordance with generally accepted government auditing standards.

<sup>1</sup>An item in a deficit position is one where the requirements exceed the inventory available to the requirements.

# Comments From the Department of Defense



ACQUISITION AND  
TECHNOLOGY

## OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000



20 DEC 1995

(L/MDM)

Mr. Mark E. Gebicke  
Director, Military Operations and  
Capabilities Issues  
National Security and International  
Affairs Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Gebicke:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ARMY INVENTORY: Inaccurate Requirements Data Can Affect Budget Requests for Spare and Repair Parts," dated October 19, 1995 (GAO Code 703086), OSD Case 1043. The Department partially concurs with the report.

The DoD agrees that systemic data problems exist in the Army requirements system, and that action should be initiated to correct these problems. However, the DoD maintains that the appropriate method to address this issue is through the submission of a request by the Army to the Corporate Configuration Control Board at the Joint Logistics Systems Center for funding to correct the systemic data problems. The Army will be asked to initiate such a request.

The detailed DoD comments on the GAO draft report are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

*per R. F. Phillips*  
John F. Phillips  
Deputy Under Secretary  
of Defense (Logistics)

Enclosure



GAO DRAFT REPORT DATED OCTOBER 19, 1995  
(GAO CODE 703086) OSD CASE 1043

**"ARMY INVENTORY: INACCURATE REQUIREMENTS DATA CAN AFFECT  
BUDGET REQUESTS FOR SPARE AND REPAIR PARTS"**

**DEPARTMENT OF DEFENSE COMMENTS**

\* \* \* \* \*

**FINDINGS**

**FINDING A: Inaccurate Data Caused Items To Be Erroneously Reported in a Defense Position.** The GAO found 94 of the 258 items reviewed, with a reported deficit inventory value of \$217 million, had data errors that affected the items' requirements or inventory available to satisfy the requirements. The GAO stated that overstated requirements and understated inventory levels were the major reasons items were erroneously reported in a deficit position. In addition, the GAO found some items were incorrectly included in the process for determining funding requirements. The GAO concluded that if the inventory position had been correctly reported, the true deficit position for the 94 items would have been about \$16 million, rather than \$217 million. (pp. 3-13/GAO Draft Report)

**DOD RESPONSE:** Concur.

**FINDING B: The Army Is Aware of the Systemic Data Problems, But Is Waiting to Make Corrections.** The GAO noted that the Army is aware of many of the data problems and has identified 31 system change requests to correct data problems with the requirements determination and supply management system. The GAO stated that according to Army officials the benefits would greatly outweigh the estimated cost of \$640,000 to implement the systems change requests. The GAO found, however, that not all of the requests have been approved for funding because the DoD is developing a standard requirements system as part of the Corporate Information Management initiative. The GAO noted that the DoD is reluctant to spend resources on a system that is being replaced by a standard system.

The GAO reported that the standard system is not expected to be implemented for at least four years. In addition,

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the GAO reported that it is envisioned that major parts of the existing system will be integrated into the standard system. The GAO concluded that unless the existing data problems are corrected, the existing data problems will find their way into the standard system and the Army will still not have reliable data for determining its real needs. Furthermore, the GAO reported that command records indicate the policy to prohibit the funding of changes to the existing systems is causing the disposal of high-dollar, force modernization items which could result in re-procurement and adversely affect stock availability to field units. (pp. 13-15/GAO Draft Report)

**DOD RESPONSE:** Concur.

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**RECOMMENDATION**

**RECOMMENDATION 1:** The GAO recommended that the Secretary of Defense direct the Secretary of the Army to proceed with the pending system change request to correct the systemic data problems that are affecting the reliability and usability of information used in determining spare and repair parts requirements. (p. 16/GAO Draft Report)

**DOD RESPONSE:** Partially concur. The DoD agrees that the Army should pursue correction of the systemic data problems discussed by the GAO. However, the DoD position is that the appropriate method of resolving this issue is through submission of a request for funding to the Corporate Configuration Control Board at the Joint Logistics Systems Center. That Board was established to consider and resolve such issues. During the second quarter of FY 1996, the Army will be requested to develop and present such a request to the Board.



# Major Contributors to This Report

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# Related GAO Products

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Army Inventory: Growth in Inventories That Exceed Requirements  
(GAO/NSIAD-90-68, Mar. 22, 1990).

Defense Inventory: Shortcomings in Requirements Determination Processes (GAO/NSIAD-91-176, May 10, 1991).

Army Inventory: Need to Improve Process for Establishing Economic Retention Requirements (GAO/NSIAD-92-84, Feb. 27, 1992).

Army Inventory: More Effective Review of Proposed Inventory Buys Could Reduce Unneeded Procurement (GAO/NSIAD-94-130, June 2, 1994).

Defense Inventory: Shortages Are Recurring, But Not a Problem  
(GAO/NSIAD-95-137, Aug. 7, 1995).